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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,973	08/27/2003	Larry L. Johnson	2232/SPRI.103532	4144

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EXAMINER

AMRANY, ADI

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 06/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,973

Applicant(s)

JOHNSON, LARRY L.

Examiner

Adi Amrany

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6-20 are objected to under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claims 6 and 16 recite the limitation stating, "each of said capacitors including a rectifier". A capacitor and a rectifier are separate and distinct electrical devices. These devices may be coupled together, as present in applicant's original claims (filed August 27, 2003). One, however, may not "include" the other.
3. Claims 15 and 19 are objected to because there is no basis for the limitation of a "rectifier/super capacitor". Claims 6 and 16 were amended to remove this limitation.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 6 and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Jungreis (US 6,184,593).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jungreis (US 6,184,593), in view of Jungreis (US 6,541,940).

With respect to claim 6, Jungreis '940 discloses a power supply system for providing reliable electrical power to a telecommunications facility (column 1, lines 45-59), said facility containing telecommunications equipment,

Jungreis '593 discloses a power supply system comprising:

an AC power source (figures 3 and 4, item 10; column 3, lines 4-5); and
at least one capacitor (figures 3 and 4, items F1-Fn+2; column 3, lines 33-40), each of said capacitors including a rectifier (figure 3 and 4, items DR1-DRn+1; column 3, lines 4-5) operable to convert said AC electrical power to DC electrical power adaptable to power said telecommunications equipment;

wherein each of said capacitors also includes at least three connection points (figure 4) to which other devices may be coupled, the first connection point coupled internally to said rectifier AC input, the second connection point coupled internally to said rectifier DC output and said first side of said capacitor, and the third connection point coupled internally to said second side of said capacitor;

wherein said AC power source is at least one microturbine generator (figures 3 and 4, item 20b; column 2, lines 58-59) operable to produce AC electrical power and adapted to be powered by a fuel.

The three connection points are shown in figure 4. The first connects the AC power source 10 to the rectifier DR. The second connects the rectifier DR with the capacitor F1 and the high voltage reference bus. The third, on the lower side of the capacitor F1, connects it to the low voltage reference bus. It is also inherent that a fuel would power the microturbine generator.

At the time of the invention by applicant, it would have been obvious to utilize the power supply system disclosed in '593 with the telecommunications facility disclosed in '940. The motivation for doing so would have been to supply uninterruptible power to an electricity dependent utility service provider.

With respect to claim 11, Jungreis discloses the system of claim 6 and further discloses said AC power source is a commercial electric utility (column 1, lines 11-12). Jungreis discloses that the main ac supply is received from a power grid, which is the distribution system of a commercial utility.

With respect to claim 12, Jungreis discloses the system of claim 6, and further discloses a first switching mechanism (figure 2, items S2; column 1, lines 25-37) that is operable either to couple at least one microturbine generator to said first connection point or to couple a commercial electric utility to said first connection point.

8. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jungreis ('593 and '940), in view of Welches (US 6,404,655).

With respect to claim 7, Jungreis discloses the system of claim 6, but does not expressly disclose said fuel for said at least one microturbine generator is natural gas.

Welches discloses a microturbine generator powered by a gas turbine (column 10, lines 4-7).

Jungreis and Welches are analogous because they are from the same field of endeavor, namely AC power rectifiers.

At the time of the invention by applicant, it would have been obvious to a person of ordinary skill in the art to combine the microturbine generator disclosed in Jungreis with the gas disclosed in Welches. Further, it would be obvious to one skilled in the art that the gas turbine would be powered by natural gas.

The motivation for doing so would have been because natural gas is a widely used combustible fuel.

With respect to claim 8, Jungreis and Welches disclose the system of claim 7, and further, it would be obvious to one skilled in the art that said natural gas is supplied by a commercial utility. Natural gas is commonly distributed by commercial utilities to customers through underground pipes.

With respect to claim 9, Jungreis discloses the system of claim 6, and Welches discloses the fuel for said at least one microturbine is propane. It would have been

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obvious to one skilled in the art to that the gas disclosed in Welches may comprise propane because propane is a widely used combustible fuel.

With respect to claim 10, Jungreis and Welches disclose the system of claim 9, and further, it would be obvious to one skilled in the art that said propane is stored on site. Propane gas is commonly delivered to consumers and stored in tanks.

9. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jungreis ('593 and '940), in view of McCluskey (US 6,902,837).

With respect to claim 13, Jungreis discloses the system of claim 6, but does not expressly disclose at least one proton exchange membrane.

McCluskey discloses at least one proton exchange membrane (figure 1, item 100; column 2, lines 8-36; column 4, lines 18-30) that is operable to produce DC electrical power adaptable to power said telecommunications equipment, said at least one proton exchange membrane adapted to be power by a fuel, said proton exchange membrane coupled to said second connection point.

It would be obvious that the output of the proton exchange membrane is coupled to the second connection point because one skilled in the art would couple the DC output of a power source to the high voltage reference bus.

Jungreis and McCluskey are analogous because they are from the same field of endeavor, namely back-up power supply systems.

At the time of the invention by applicant, it would have been obvious to a person of ordinary skill in the art to combine the power supply system disclosed in Jungreis with the proton exchange membrane disclosed in McCluskey.

The motivation for doing so would have been to apply a regenerative and renewable power source as a back-up power source.

With respect to claim 14, Jungreis and McCluskey disclose the system of claim 13, and McCluskey further discloses said fuel for said at least one proton exchange membrane is hydrogen (figure 1, item 64; column 5, lines 5-10).

With respect to claim 15, Jungreis and McCluskey disclose the system of claim 13, and McCluskey further discloses a second switching mechanism (figure 1, item 44; column 6, lines 28-32) operable to switch from said DC produced by said at least one rectifier/super capacitor device to DC power produced by said at least one proton exchange membrane.

With respect to claim 16, Jungreis discloses a power supply system for providing reliable electrical power to a telecommunications facility (Jungreis '940; column 1, lines 45-59), said facility containing telecommunications equipment, said system comprising:

at least one capacitor (figures 3 and 4, items F1-Fn+2; column 3, lines 33-40), each of said capacitors including a rectifier (figure 3 and 4, items DR1-DRn+1; column 3, lines 4-5) operable to convert said AC electrical power to DC electrical power adaptable to power said telecommunications equipment and said capacitor, said capacitor coupled to the output of said rectifier;

wherein each of said capacitors also include at least three connection points (figure 4) to which other devices may be coupled, the first connection point coupled internally to said rectifier AC input, the second connection point coupled

internally to said rectifier DC output and said first side of said capacitor, and the third connection point coupled internally to said second side of said capacitor.

The three connection points are shown in figure 4, as discussed above in the rejection of claim 6. Jungreis does not expressly disclose at least one proton exchange membrane.

McCluskey discloses at least one proton exchange membrane (figure 1, item 100; column 4, lines 18-30), said proton exchange membrane including a fuel input (figure 1, item 64) and an electrical output (figure 1, connection between items 34 and 44), said proton exchange membrane operable to convert fuel received at said fuel input to generate DC electrical power at said electrical output; wherein said electrical output of said at least one proton exchange membrane is coupled to said second connection point, said second point also coupled to said telecommunications facility, and said third connection point is coupled to ground.

As discussed above, it would be obvious that the DC output of the proton exchange membrane would be coupled to the second connection point, which is the high-voltage bus.

Jungreis and McCluskey are analogous because they are from the same field of endeavor, namely back-up power supply systems.

At the time of the invention by applicant, it would have been obvious to a person of ordinary skill in the art to combine the power supply system disclosed in Jungreis with the proton exchange membrane disclosed in McCluskey.

The motivation for doing so would have been to apply a regenerative and renewable power source as a back-up power source.

With respect to claim 17, Jungreis and McCluskey disclose the system of claim 16, and further, McCluskey discloses said fuel for said at least one proton exchange membrane is hydrogen (figure 1, item 64; column 5, lines 5-10).

With respect to claim 18, Jungreis and McCluskey disclose the system of claim 17, and McCluskey further discloses said hydrogen is stored on site. As shown in figure 1, the hydrogen storage tank (64) is configured as part of the proton exchange membrane power supply system (100).

With respect to claim 19, Jungreis and McCluskey disclose the system of claim 16, and further, McCluskey discloses an AC power source (figure 1, item 32; column 3, line 66 to column 4, line 1) coupled to said first connection point and a switching mechanism (figure 1, item 44; column 6, lines 28-32) operable to switch from said DC power produced by said at least one rectifier/super capacitor device to DC power produced by said at least one proton exchange membrane.

It would be obvious that the AC power source disclosed in McCluskey would be coupled to the first connection point of Jungreis, because the first connection point is the AC input node for the rectifier.

With respect to claim 20, Jungreis and McCluskey disclose the system of claim 19, and McCluskey further discloses control means (figure 1, item 44; column 4, lines 31-58; column 6, lines 28-32) for monitoring AC power produced by said AC source and DC power produced by said at least one proton exchange membrane and for causing

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said switching mechanism to be an open circuit so long as said DC output from said at least one proton exchange membrane remains below a predetermined value and to be a short circuit when said DC output from said at least one proton exchange membrane exceeds a predetermined value.

Double Patenting

10. As stated in the non-final rejection (March 24, 2006), Claims 6-20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 8-10 and 12-13 of U.S. Patent No. 6,960,838. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would be obvious to a person of ordinary skill in the art that a coupled rectifier and capacitor would have three connection points, one at the front end of the rectifier, a second at the coupling point of the rectifier and capacitor, and a third at the back end of the capacitor. It would also be obvious that AC sources would be coupled to the first connection point, DC sources would be coupled to the second connection point, and a low-voltage reference or ground would be coupled to the third connection point.

Applicant amended independent claims 6 and 16 by removing the limitation of a super capacitor. As amended, claims 6-20 of the present continuation-in-part application are not patentably distinct from the claims of the parent patent ('838).


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adi Amrany whose telephone number is (571) 272-0415. The examiner can normally be reached on weekdays, from 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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